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TRANSMISSION OF HEREDITARY DISEASES.

ANIMAL GRAFTING—ORIGIN OF TUBERCULAR MATTER—SOLIDIST'S THEORY OF IT.

By E. NICHOLS, M. D.

Theories often arise and conclusions are drawn from very small and imperfect experiments and distant facts. Owing to this many arguments have been advanced without bestowing light on subjects discussed or being of practical benefit to any one. Among other questions discussed without obtaining satisfactory conclusions is that of the true *modus operandi* in the transmission of hereditary diseases: some holding that the transmission takes place through the solids, and others maintaining that the diseases are transmitted through the medium of the fluids.

For a long time I have had peculiar if not original ideas concerning the transmission of hereditary diseases, as well as the peculiarity of the commencement of certain maladies in the system. In the years 1861 and '62, I made some inter-

esting experiments in *grafting animals*, and from them derived what I deemed a sufficient proof of my theories.

My idea was that the whole caste or peculiarity of a being belonging to a race or family rested with the *tissues* of the body—the *blood* or other fluids having nothing to do with it. I saw some crab apples growing on trees in the same soil that gave growth and nourishment to trees bearing sweet plumbs, while a tree loaded with rosy peaches stood in their midst. The soil furnished the same quality of nutriment to the roots of all these trees, yet their several saps varied in composition and nature. Then it must be a peculiarity in the roots of these trees—a difference in their selective powers—and not a difference in the nutriment furnished by the soil to each. By *grafting*, my theory was more closely proven. Place a very small piece of pear-sprig, a single bud, into the bark of a gnarled crabapple tree, and as fine a branch of pear and as sweet pears will grow on the crabapple-sap as could be grown on the parent tree. This, then, was proof positive that any peculiarity of a vegetable body rested with the *tissue* and not with the *fluid* that fed it. Was it the same with animal tissues? The question seemed interesting and well worth solving, and after a patient trial I succeeded in grafting animal tissue. I transplanted a small piece of integument from a squirrel into the skin of a dog, and it was retained and nourished after a time as well as if in its original place. *Squirrel skin and hair was grown from the blood of a dog.**

*In the year 1862 I began an article on hereditary diseases, in which I designed to mention this experiment; but, entering the army soon after, I never completed it. However, I wrote a short article of general interest and novelty in which I mentioned the result of my animal grafting, and which was published in a New York literary paper early A. D. 1862. Since that time Dr. Bert has published a book on "Animal Grafts," as I have been able to learn through the "Book Notices." I have not seen his work, nor do I know how far he claims originality, but I believe I am safe in saying that I am the first to publish any thing on this subject.

Nearly a year ago, I again commenced a course of experiments in animal grafting, and wrote to Prof. Ingals, of Rush Med. College, to enquire if he knew of ought to prevent my claiming originality in the experiments. His answer was, "that he knew of nothing ever having been published on the subject." Dr. Bert's book, I believe, has been issued since that date; yet Animal Grafting may be original with him as well.

Now, if peculiarities, whether predisposing to disease or superiority, was dependent on the fluids of the body, why did not the blood of a dog make dog-integument and dog-hair out of the squirrel skin depending on it for life and nourishment? According to the theories and belief of fluidists it should have done so. Because this did not occur, but on the contrary dog-blood built up squirrel tissue, I considered it a sufficient proof of this assertion. No matter what is the peculiarity of a certain tissue, all tissues arising out of it must partake of the same peculiarities, no matter what may be the characteristic nature of the fluid nourishing it. The assimilative power of the tissue will select only such material as will build up particles of the same nature, and its formative power will endow it with all its peculiar shapes and impressions. We know this by a more general view in observing that the same fluid feeds bone, muscle, ligaments, etc.

The germs for a new being we know are secreted from the blood of the parents; but in that germinal, or in the primitive being there is no blood until it is generated by the tissues of the fœtus, while there is no interchange of blood with the mother and her offspring during the whole of fœtal life. Not only this, but a disease is as liable to be inherited from the father as the mother. Therefore, I can not understand how a disease may be transmitted by the blood. But if there is any peculiarity in the tissues of the parent, I can imagine how the germ may be marked by the same peculiarities, and the tissues of the new being endowed with the same distinguishing features. But when it comes to atoms too minute for the vision, even aided by the most powerful lens, it is difficult to determine their shape or nature, or understand the manner in which they are impressed. We can not observe molecular metamorphosis, yet it is these same minute molecules that bear the characteristic likenesses of its parents, and on the perfectness of these alone depends the tone and nature of the system they compose. If, owing to imperfection in the parents, they are in any way defective, they of course are liable, or pre-

disposed to the same disease as were the parents. On the other hand, the blood does not depend on blood for its regeneration, and therefore can not for any length of time retain peculiarities in composition or hold in it diseased forms. Besides this there is no disease whatever existing in the system until there has been a deleterious change wrought in some of the molecules comprising it. Blood may be diseased; but the system does not suffer until the tissues themselves are changed or affected by it. The blood being imperfect may be the cause of changes in the tissues, and no doubt is often the cause of disease; yet perhaps the blood is more dependent for its qualities on some of the tissues than we universally maintain. Blood, being a medium of elimination, I can not believe it capable of retaining a disease, though at times it may have in it bodies foreign to its nature. If these are of a nature not allowing of elimination through the excretory glands, the blood will not long retain them, but deposit them in some organ where they may then produce disease.

I have maintained that when a particle of tissue is disintegrated and replaced, that the new particles bear the same distinguishing features as marked its predecessor; yet I would not be understood to believe that the impressions do not grow less and less marked as molecular changes go on in a healthy and tonic condition. Yet that these impressions are retained by the tissues, there is little room for doubt. How else can *memory by the brain* be accounted for? Particles of the brain receive impressions from the external world through the special senses.

The particles impressed, however, are constantly going through the same metamorphosis as other molecules, and unless the successive particle was built up with the same peculiar impression the *memory* would be destroyed with the atom of brain matter disintegrated.

Taking this view of the subject, I will glance at the commencement of an acknowledged hereditary disease in a system and trace out the *origin of Tubercular matter*.

Tubercular matter, such as is deposited in the lungs in phthisis tuberculosis, differs from any of the tissues of the body, and it is difficult to decide accurately regarding its origin, and our theories must of necessity be more or less hypothetical; but often hypothetical arguments work out well in practice.

Every action of the body is the cause of decay to the tissues, and this constant disintegration is counteracted by a process of perpetual rebuilding. The disintegrated matter is eliminated by exosmosis from the cell-space into the capillaries, and a proper supply of new building material is taken up by an assimilative power of the changing molecule. If nature has a free scope of operation the matter endosmosed from the capillaries to the cell-space will correspond in quantity and quality to the matter broken down and exosmosed. But there may be an interruption of this natural process; and then there may be other matter taken up from the blood than such as can be converted into tissue of that kind, or the disintegrated matter may fail to pass from the cell-space into the capillaries, owing to an arrest of circulation in the capillaries, or otherwise.

Consumption is liable to a system where disintegration occurs more rapidly than the process of rebuilding can take place, whether the causes are hereditary or not. There are many causes which produce it in systems not predisposed to it; but I will confine my brief notes to the hereditary form only.

The *peculiarity* of a tissue-molecule predisposing to the formation of tubercular matter I will suppose to be a lacking in its assimilative power; or, being imperfectly formed, it may be more rapidly torn down than a healthy molecule, and therefore has less power to select proper nutriment for its reproduction. This may give rise to a foreign matter being placed in the cell that should be occupied by a perfect tissue molecule. This foreign matter may be the disintegrated part of the old molecule which has not been thrown out, owing to

an interruption of the laws of exosmosis and endosmosis, or it may be a conglomerated material from the blood, which has passed into the cell through other agencies than by the assimilative power. This matter is surrounded by chemical changes which will cause it to endeavor to take on an organic nature, and as it is not proper material for tissues, it becomes a semi-organic body—*tubercle*. This occupies the cell-space and no doubt takes up matter for its growth like all other molecules, and as it increases in size it is forced from its lodgement if situated in an active organ—muscle for instance—and is carried off in the blood. If not too large it is eliminated through an excretory organ; but, if too large, it is carried on until it finds lodgement in the capillaries of an organ that is not active and hardy enough to displace it and force it on in the circulation. If it stops in the liver, or lungs, or like structures, it remains, and by its assimilative power for like material it increases in size until it makes a large tubercle. The reason we have this matter deposited in the lungs more frequently than elsewhere is no doubt because all the blood of the circulation passes through these organs, and because there is less force here to expel the foreign matter.

Thus we have the formation of tubercles owing to a predisposition of the *tissues* to a *too rapid disintegration*, or a *lack of assimilative power*. Yet, can there not be an improvement wrought in such tissues and the results of such conditions warded off? Without doubt, I think, there can be improvement made and the tissues restored to a healthy condition. Let us again have recourse to the mind and brain for illustration. It may appear to be getting into a shadowy realm for illustration; but I hope the investigation will be none the less satisfactory.

We have said that a particle of brain matter being impressed, its successor is impressed in like manner. This must be so, as a thing once received by the brain may not be acted upon for a long time by *nerve-fluid*, or whatever else it may be—known as such though,—yet the impression is still there,

though perhaps less perfect than when first received. And, owing to this very imperfectness, we must believe that each succeeding particle is less strongly impressed until lost entirely, and we have instead of memory a thing forgotten. Thus, for instance, you will see in two old friends who have not met for many years, that one can recount incidents in the early lives of both that the other can not recall a shadow of, and *vice versa*. This is simply because one has not thought of it since its occurrence, while the other has had it frequently repressed by the action of thought. So it is with tissue molecules. Though deleteriously impressed at first, if all the agencies which caused this impression are studiously avoided so that no reimpression will occur—which will take place much easier than in the first instance—the molecules may be brought back to a normal condition.

Knowing the causes of phthisis tuberculosis, it will not, then, be difficult to prescribe hygiene for one predisposed to it, and in like manner we draw our inferences in regard to the treatment of those already suffering from this dreadful malady.

ANN ARBOR, Mich., Jan. 7th, 1865.

FETAL HYDROCEPHALUS.

By C. A. WHITE, M. D.

On the 16th of Dec., 1864, I was called to see Mrs. W. in labor, the messenger saying that "the body was born, but the head could not be, and the child was dead." I went immediately, taking my forceps with me. Arrived at 4½, P. M., and found the patient, a strong, healthy looking woman of 25 years, in her first labor, which she believed a month too soon, and in the condition as stated by the messenger. A midwife was in attendance, who stated that "labor commenced at 1, P.

m., and at 3 the waters broke, with the feet presenting; three pains following closely upon each other brought forth the body; the child was alive, and kicked many times." The pains, she said, then ceased entirely and the child soon died.

The patient was comparatively comfortable, the pulse good and no symptoms of exhaustion. Upon palpation of the abdomen it was evident that there was more in the womb than an ordinary sized head and the placenta. By examination per vaginam, I was able to reach the occiput, and by considerable effort got my index finger in the child's mouth, the face being at the left sacro iliac synchondrosis, but could not move the head in the least. I informed the friends of the condition of affair, and said that I had little hope of delivering her without an operation. They were very averse to this, and as the woman's strength was good, and the pelvis capacious, I determined to give ergot.

Preparing a decoction of three drachms of the grains, of good quality, I gave it all to her in four fluid drachm doses, every fifteen or twenty minutes, without producing a single uterine pain. This was as far as I thought proper to carry its use, although the child was dead and not, of course, in any danger from violent contractions of the uterus, should they occur, and the uterus itself being partially contracted, in little or no danger of laceration, as I believed, from the same cause. After allowing sufficient time to elapse after the exhibition of the ergot, and finding the womb closely contracted over its contents, I decided to use the forceps. I had no difficulty in introducing them, but when introduced they would not lock. This confirmed my previous belief that the head was of abnormal shape and size. The forceps were of the pattern used by Prof. DeLaskie Miller of Rush Med. College.

By further palpation of the abdomen I could distinctly feel the disconnected bones of the cranium jutting upon one another, and believed that I could detect fluctuation when laying my left hand on the abdomen, and thrusting the index finger of my right, against the occipital bone.

It was now 1 o'clock at night, and twelve hours since labor commenced, the patient's strength was failing, and it was too far to send for my perforator: so taking the scissors from her work-basket, I thrust them through the occipital bone of the child, widened the wound with my finger, and drew off about two pints of limpid fluid, by estimate. The cranium collapsed like an empty bag, and immediately came away, followed at once by the placenta. The womb readily contracted to the usual size after ordinary delivery, without hemorrhage and without a single uterine pain having occurred after the shoulders were born.

No accident had befallen the mother during gestation, her health had been good during the whole period, and she has recovered as well from her confinement as is usual in favorable cases. Both the parents are, to all appearances, strong and healthy.

There was no separate tumor containing the fluid, but it was all contained within the expanded cranium, which was more than twice the normal size. The child was apparently well developed in other respects, and would have weighed seven or eight pounds if the cranium had contained nothing unusual, but I had no opportunity of making a careful examination of it.

IOWA CITY, Iowa, December 28th, 1864.

FOGYISM IN PHYSIC.

An Address delivered before the Cairo Medical Society, and published in compliance of a vote of the Society. By the President,

W. C. MUNSON, M. D.

The preservation of health, the prevention and removal of disease, are perhaps the most interesting and absorbing subjects which can claim our attention. Hence great and philanthropic minds, from Hippocrates down to the present time, have (by laborious research and experiments) built up what is called a "medical profession." Candor, however, compels

the admission, that a spirit of bigoted *exclusiveism* has been, and is yet too frequently found among its members.

When success of *party* is more coveted than the triumph of truth, this spirit is fostered; and free and liberal investigation is stifled. From this exclusiveness we wish to be free. In this age of progress, when the foundations of political, and even ecclesiastical superstructures are so closely scanned, the members of this noble profession should put their seal of disapprobation upon all the *despotic edicts* of "Medical Associations," either *National* or *sectional*, which declare that every physician shall be strictly *regular* in his practice, and follow the course laid down by his *master*, else himself and students shall be proscribed from the profession, and excluded from Medical schools, where such free-thinking *heretics* might corrupt the young and unsophisticated *lambs* of the *flock*. Believing such rules better adapted to the government of infants than men, we would say—let them be *abolished*.

Freedom is needed to think. Liberty is demanded—liberty to investigate calmly, without fear or favor, and reject all old and crumbling errors, though called *science*; whether upheld by *Authority* or not. Liberty to travel out into the unexplored fields of nature and gather such instruction as she may place within our reach. When "Medical men" shall discard the appellation "Allopathy," or any other name indicative in the popular mind, of a *party* in the profession, our ears will not be offended by the question (so grating upon the auditory nerves of the man of science,) "What system do you practice?" Why there is but one system of practice. Among scientific men there necessarily can be but one, which is, of course, the "*Curative System*," and consists in the employment of the most efficient therapeutics within their reach. As a matter of course, the kind of therapeutical means employed will depend very much upon the diagnosis. Everything available within his reach may be "pressed into service," and made to "do duty" for the physician who is more devoted to the development of truth, than the advancement of *party*. To *him* there is nothing interdicted.

Doubtless the parties which have originated in the profession, and the exclusiveness which party spirit engenders, has bound many active minds in a kind of mental *incubus*, from which they never escape, and but for which, might have added largely to the resources of the profession. At the present day, when such a vast amount of published matter must be *sifted*, in order that the greatest amount of truth may be elicited, we need freedom to look around, compare, analyze and investigate, that a full array of facts may be *marshaled*, to aid in the adoption of truth, and the rejection of error and *quackery*.

It could hardly be expected, however, that the student, in the commencement of his explorations in the vast field of medical science, should be competent to make judicious selections of *text books*; and will save much valuable time by having these selections made for him. The undisciplined mind is easily mislead, and the power of delusion is so great, its operations so extensive, and its evils so terrible, that every influence favorable to close investigation should be brought to bear. In short, it should be impressed, that *facts* not *theories*, should be trusted. The history of the world shows that the majority of mankind quietly yield themselves to every delusion which may be prevalent in the country where they were born. Tell me in what community a man was born, and I can tell almost to a certainty what principles he has adopted. In one community he will be a Roman Catholic, in another a Protestant, in another a Greek, in another a Jew, in another a Mahomedan, and so on, taking the hue of society, imbibing every delusion which surrounds him, as the tree imbibes the sap from the soil where it is planted. And these *opinions* or delusions, thus passively imbibed, are seldom received because supported by specious arguments, or tangible proofs, but too often by *influential* associations, conspiring against the people, or by the strong arm of military power.

At present, in Europe and America, various forms of Christianity are professed. But that we are called Christians—

that we are not repeating prayers with our faces towards Mecca—is probably only because, in the eighth century the Catholic armies were more powerful than the Mahomedans. Because Charles Martel, the mayor of France, in the great battle of the plains of Poitiers, in 732, succeeded in driving back the hordes of “Saracen invaders,” whose armies at that time threatened to conquer all Europe. That man should be the passive creature of circumstances, believing what a king decrees to be true; that he should accept with all the fervor of his soul, whatever has been arranged for him to believe by kings and priests, is one of the melancholy and humiliating facts of history. The combined leaders of mankind in former times, and under the influence of monarchical governments, have looked upon the masses as mere puppets to be moved by the word of command. These sentiments and this policy still prevails in Europe; and has attached itself more or less to all that we have borrowed from Europe. We have borrowed from Europe much of the literature, rules, organization, sentiments and *esprit de corps*, of the profession.

So much of the above spirit as exists among us has probably been transplanted from the monarchical soil of Europe to the free soil of America. If it lives and flourishes here at all it is as an exotic, having nothing in common with the free spirit of our country. May it not be that the influence of Europe in this direction exists among us too much? Perhaps the idea is too much acted on, that the *leaders* must think for the masses, and that the *authorities* must be obeyed by their humble followers. The writer does not, by the above remarks intend disrespect for the *learned authorities*, or insinuate that their study is unnecessary, but simply that no fine-span theories, however well they may appear on paper, or sound to the ear; that no weight of authority that may attach to great names, from Hippocrates and Galen, down to Benj. Rush, should induce us to receive their opinions without strict scrutiny, and unbiassed and rigid investigation.

Perhaps teachers in Medical schools err, when they receive

their young and impressible subjects from the country, and tell them that they must follow their great *authorities* and indorse all their doctrines. And does not the student (finding himself surrounded by the imposing influences of flourishing colleges and public sentiment, from which it is not easy to escape,) passively yield his soul to the guidance of his teachers, and become too much like clay in the potter's hands to be molded into shape? How seldom is heard expressed a manly sentiment in favor of free and independent investigation? More frequently is the idea of reverence for the *learned authorities* inculcated. And this, perhaps, becomes so impressed on some minds that it goes into the very structure of the soul. Like the image of himself, which Phidias cut so deeply into the buckle of his Minerva, that no one could obliterate it without breaking into fragments the statue itself. And thus through life they never undertake to investigate for themselves, the doctrines taught them in their youth. It is gratifying, however, to be able to state that *Fogyism*, as above portrayed, applies more to the past than the present; that in our Medical schools in America, at the present day, the above is the exception, not the rule.

Let there be no stone wall of *party* prejudice erected around us. Let it not be thought disreputable to take a careful survey of Homœopathy, Hydropathy, or Eclecticism, or give them credit for all the truth they may, individually or collectively, possess. In this day of progress and intelligence, we think it incumbent on every high-minded physician to refuse to be controlled by party restrictions or prejudices, and feel it a duty to thoroughly master and comprehend all the so-called *systems, parties* and *pathies*. But this would be *Eclecticism*, which has already appeared in the *arena*, claiming to be a distinct *party*. So far as the *name* is concerned, it is not objectionable, but commendable—what every accomplished physician is, eclectic. He culls and selects as his judgment dictates. But when the term is applied to a party, as bigoted and exclusive as any other, and who insist that everything else in

therapeutics must be superceded by some especial dogma of theirs, it is undoubtedly inappropriately applied.

We are inclined to deny "Papal infallibility" to any *party, pathy, or assumed system*, and when men of the most profound scientific attainments, in their most comprehensive and liberal investigations, have mastered all within their grasp, *they* will be in no danger of that shallow egotism which supposes all beyond to be folly and imposture, but will be willing to admit any truth that may be found in any or all *assumed systems*. Fogysm has, perhaps, been responsible for the origin of these *systems*, yet justice to all parties demands that "Young Physic" be held up for inspection, in order that we may see upon what ground it sets up its claim for exclusive favor. As such we may name Botanic, Hydropathic, and Homœopathic. Eclectic is not mentioned because, 1st. It is a *misnomer*, as the name can not be properly applied to a party of exclusivists, (though it is true that much bigotry and exclusivism assumes this name). 2d. Because the Botanic is its sire, and is, perhaps, sufficiently transparent to enable us to look through it, and see the features and physiognomy of its offspring, and recognize their consanguinity.

But to return to these systems, we have, 1st. A party of *chameleon* name, changing its hues and titles like the "dying dolphin," the Botanic. The absurdity of forcing therapeutics to follow in the wake of every visionary hypothesis, and "do duty" alike for the "solidist," the "humorist," the "Broussaist," and the empirical "routinist," (by a sort of natural reaction, perhaps,) brought out the ignorance, the common sense, and in some instances, useful medicines of Samuel Thompson. His limited pharmacopœia and universal application of steam, originated the name *Steamers*. It will, perhaps, be just to admit that cures were effected, some of which possibly may have been beyond the reach of remedies in the hands of other practitioners of that day. In an enlightened community the ignorance and limited resources of Thompsonianism could not maintain a hold on public confidence. But

the Thompsonian or *Steam System*, in the hands of men of much more science than its founder, has progressed and improved far beyond the ideas of Thompson, and rising above the titles of Steamers and Thompsonians, has been designated as "*Botanico-Medical*."

Medical schools have also been acknowledged useful and necessary. Teaching, studying, and attempting to practice medicine, could not fail to have some effect upon them, and accordingly we find *Botanico-Medical* advancing still further beyond Thompsonianism, enlarging their resources and using many valuable remedies; but yet, making an ontery against some of the most efficient therapeutical means employed by the most eminent and successful practitioners, denouncing them as poisonous, and unfit to be retained in the officinal list. Perceiving that they could not rely on vegetable remedies exclusively, and that all minerals were not as bad as Thompson supposed, the title of *Botanico-Medical* was dropped and that of *Physo-Medical* substituted. This title, however, was rather awkwardly constructed, as *physo* signifies *air* or *wind*, and therefore, a *Physo-Medical* system must be rather too gaseous for solidity or dignity. After this defect had been discovered, *Physo-Medical* was laid on the shelf with *Steam*, *Thompsonian*, and *Botanico-Medical*, and *Physo-Pathic* is, I believe, taking its place, or has done so. But as this signifies a windy disease, or windy treatment, suggesting painful and colicky ideas, we "can't see" the improvement. Their bigoted exclusiveness and ignorance is seen in their idea of non-poison medicine. The non-poison platform is boasted of, and all are denounced who use "poison-medicine." If such a party would adhere to bread and water as their sole medicines, there would be consistency between their doctrine and practice. But when many of their drugs will kill even a well man in a short time, their theory becomes palpably absurd and inconsistent.

The non-poison theory would confine us to food and drink. By medicine we mean something not used as food, but de-

signed to modify the vital functions, and there is no such substance in nature which is not poisonous, if used with sufficient freedom. The distinction between medicine and poison is a distinction of degree, not of kind. Any medicine, if sufficiently concentrated, would be called a poison, and any poison if sufficiently subdivided or diffused, possibly may act as a medicine.

Snake poison is converted into medicine by the Homœopaths, and the most harmless medicines would be pronounced poisonous, if concentrated until a single grain would be a fatal dose. The idea that a medicine is desirable because it can be given in a large dose, or unfit to be used because it must be given in a small dose, is certainly a very crude theory. If a medicine is found beneficial, use it; if not, reject it. If it be good, the smallness of the dose should be no objection; it is certainly more convenient to carry an ample supply in a small pocket vial than to "fetch in an armful of herbs and a kettle to boil them in." It is undoubtedly right to reject everything which acts harshly, and generally produces ill-effects, but the "Botanico-Physio-Eclectic-Medicinals" have gone beyond these rational limits, and rejected articles which, in their legitimate use, are both safe and beneficial.

The Hydropathic or Water-cure system, also possesses some merit, and so far as it goes should be incorporated among the resources of every intelligent physician. But when water is made the sole agent in the treatment, and when a contempt for all other therapeutical means is expressed, and an unwarrantable prejudice is instilled into the public mind against all medicine whatever, we feel inclined to reject this form of delusion and prejudice. But if we must be narrow-minded, if we must dwell on one idea alone because there is not room enough in our minds for more, water is, perhaps, as good a hobby as any other. But why the necessity for intelligent men to thus surrender their general knowledge and resources? We might as well resolve to live on one article of food, as bread, or potatoes, or rice, or corn, or oats, as confine ourselves

to one medicine. No doubt a Water-cure system would cure or relieve some cases, and so would a Lobelia-cure system, or a Podophyllin-cure system, or a Calomel-cure system, or a Steam-cure system, or a Brandy-and-salt-cure system. Thus every doctor might have his hobby, his own great cure-all. And there is no doubt that any single valuable drug in the whole *materia medica* would accomplish very much, if made a hobby, and pursued with energy and enthusiasm.

There is another hobby upon which respectable progress has been made, and which, like Hydropathy, has some merit, which is, mainly, that it has more fully demonstrated, than was ever done before, the power of nature, unaided, to overcome disease. It has also shown the enormous abuse of that *blind routine* practice, once so common. It may freely be admitted that Homœopathy, or more practically speaking, the use of infinitesimal doses, has the merit referred to. And if it was only added to the common stock of science, we would say to Homœopathy, as to Hydropathy, welcome! but unfortunately, these two worthy new-comers, after having been kicked out of the temple of Esculapius by the *old masters*, have got their spirits up, and each resolved that they will not only make their way into the temple, but will also reciprocate favors by kicking every body else out, and taking exclusive possession. Now against this, we protest, I should vote for the admission of Homœopathy and Hydropathy: Let them come in, and occupy as much ground as they can really cover. But we object to their turning anybody else out. When they undertake to reciprocate the arrogance of "Old Hunkerism" by the rival arrogance of "Young Hunkerism," they provoke our criticism. We are tempted to ask, What is this new system, which is to supercede everthing else, and fill the whole temple of Esculapius? It is only *similia similibus curanter*.

But when it comes with the demand that we shall surrender at discretion—give up our arms upon which we rely—we beg leave to look at their documents, and see if they have a right to make any such demand. Practically, Homœopathy demands

that you shall lay aside vigorous potential doses of drugs, and consent to use only little *globules* of sugar and milk, which have no medicine in them that can be detected by a chemist. Neither can it be detected in them by taste or smell; but by a process of reasoning it may be determined that it ought to be there, because the sugar has been in the mortar in company with the physic, and might have got infected with the qualities of the medicine.

If a lump of sugar was held for one moment over a vial of cologne, or linseed oil, and then swallowed, more than a homœopathic dose would be taken.

Perhaps it should not be denied that Homœopathy has effected cures, (*i. e.*, Homœopathy according to their theory.) But how? can the *rationale* be explained? It may be answered, that the mind, fully admitting the curative power of the medicine, may send a stream of electricity or other force along the nerves, to the diseased organ, and the *vis medicatrix nature* effects the cure. We know that we can cure (or rather aid nature to do so) by doses that we can see, and feel, and taste, and which produce plain, intelligible and powerful effects, in accordance with common sense and sound philosophy, and therefore should not give up a sure reliance for the speculative beauties of Homœopathy.

Supposing that these infinitesimal globules and tinctures—tinctures, did I say?—about as strong as a teaspoonful of salt in the Ohio river; supposing that these essences, shadows and ghosts of departed Acconite, Belladonna and Mercury, had all the power claimed for them? it would amount to just nothing at all upon a healthy constitution. A lively baby would swallow the whole contents of the Homœopathic laboratory—a hundred pills of a hundred different kinds, making in all ten thousand doses—and perceive as little effect as if it were sugar candy.

This very delicate and wonderful method of overcoming disease by these spirits of departed medicines, which are quite invisible and imperceptible to the healthy, are supposed to

become real "spirit rappers," when properly fitted to a disease; but how to fit them properly appears to be rather a delicate operation.

A learned Homœopathic author once declared that he would have cured one of his patients of an attack of pneumonia but for the fact that he had a hollow tooth in which the little sugar globule lodged, and consequently was unable to perform its great mission to cure the lungs. The wonderful powers ascribed to their doses is supposed to be developed by rubbing, by trituration in a mortar, or by shaking in a vial. How medicine is improved by shaking has never been explained. Should the patient be shaken, it might perhaps do him good sometimes. Hahnemann (who is almost worshiped by Homœopaths) declared that he rendered his medicines very powerful by shaking them; the longer he shook them, the more he stirred up their wonderful powers, "until, by hard shaking, they became so furiously powerful as to endanger the lives of his patients," and he "was compelled to reduce the number of his shaking from ten shakes to two." It might, then, be asked, if a German dogmatist, who fancies because he has brought forward a new idea, (which, however, was originated long before his time; in fact, is found in the writings of Hippocrates,) shall be allowed by his mere arbitrary *dicta* to sweep away at one stroke everything accumulated by the therapeutic experience of ages, that his imaginary new principle may have sufficient room to display its beauty. It would be degrading to the profession to submit to such usurpation.

We would protest against cutting off any of our resources, water, potential concentrated drugs, infinitesimal medicated sugar, galvanism, animal magnetism, and all that can possibly be used with benefit. Whenever the physician resigns his freedom of choice, and abandons valuable resources, by joining a proscriptive party, he lowers his dignity as much as he diminishes his usefulness. Let us, then, proscribe nothing, reject nothing that can be made beneficial. Let physicians

ignore all proscriptive parties, but retain all they collectively possess. Let Hahnemann stand on the merits of his own globules, and others likewise on the merits of their respective dogmas; and not boastfully exclaim, like Paracelsus, the "monarchy of physic is mine." There is no monarchy in medicine; there is no "master builder;" all are but "journeymen mechanics," working slowly; some, indeed, have excelled others, each one adding a little, some of good material and some of bad. We have been working some twenty odd centuries, and yet not half-built the temple of *Esculapius*. He who would claim to have built the temple, is an imposter. The true physician, then, can become neither Pressnitzians, Hahnemannians, Thompsonians, Allopaths, or Eclectics; but intelligent medical gentlemen, who think for themselves, and "call no man master."

SELECTED.

ON HOSPITAL GANGRENE, AND ITS EFFICIENT TREATMENT.

By JOHN H. PACKARD, M. D., of Philadelphia.

During the past four months it has been my duty to see and to supervise the treatment of a great number of cases of hospital gangrene, occurring in two of the large military hospitals in the neighborhood of this city. The disorder supervened, in almost every one of these instances, upon gunshot wounds; it presented itself in different grades of severity, and in connection with original injuries varying much in seat and importance. From these extensive observations I have been led to adopt very positive conclusions as to several points in the pathology and treatment of this disease, which I think it but right to lay before the profession.

Let me premise by saying that in so doing it is not my object to claim originality for these views, although some of

them have never met my eye in print, nor do I know of their being held by others. But it is very possible that a like experience may have brought some of my fellow-laborers to adopt similar ideas. My own attention was strongly directed to the subject by Lient.-Col. Le Conte, Medical Inspector, U. S. A., who suggested to me a plan of treatment based upon chemical views. This treatment, simplified as experience showed it could advantageously be, assumed the shape to be presently described.

As every one knows, who has read at all upon military surgery, this disease has prevailed in a most frightful form in the British army, and in some of those of Continental Europe, at different times. Such cases as are described by Blackadder, Boggie, and Hennan, by Guthrie and Macleod, have never yet come under my notice, probably, I think, because of the unquestionably superior *morale* of our army, as well as by reason of the better quality and more regular supply of their food. But no doubt can be entertained of the identity of the disease.

Phenomena.—Any open wound may at any time assume this character. A suppurating surface communicating with the atmosphere seems to be a requisite. I have never yet seen an abscess which at the moment of its being opened was the seat of this form of gangrene; nor has it ever occurred to me to see a wholly healed wound break out again with it. Usually the exposure to the air has been of some duration.

Wounds which have healed to a mere point may in a few days spread to several times their original extent. This is most strikingly seen in superficial shell-wounds; in one case of this kind almost the whole outer half of the thigh was thus converted into a ghastly and most offensive ulcer.

When the wound which begins to slough is somewhat wide and shallow, the skin seems to melt away or cave in, as it were, at the edges of the chasm; the epidermis around the margin becoming of a dead pearly white, while the skin below and just outside shows a faint pinkish blush. Another condition is apt to exist in deeper wounds, and especially in sinuses, the connective tissue sloughing so as to undermine the skin, which may or may not look inflamed and unsound.

A grayish-yellow, pultaceous, and horribly offensive material fills up these sores, and flows away like a thick purulent discharge. Microscopically examined, however, it exhibits none of the characters of "laudable" pus; consisting merely of the degenerated connective tissue of the part, with broken-

down pus-corpuscles and myriads of minute oil-drops. A few fine fibres, tangled and contorted, are seen, and sometimes here and there a pus-corpuscle less degenerated than the rest.

Swelling is rarely present in a marked degree, unless the wound passes through a fleshy part, such as the arm, calf, or buttock. Another local symptom, especially well pronounced in such cases, is a pungent heat, the temperature being so raised as to be actually quite unpleasant to the hand. If the surrounding atmosphere is at all cool, a steam arises from the surface of the wound. No doubt can be entertained, it seems to me, that this heat is the result simply of the active combustion going on in the part. This rise of temperature I have noticed to be confined strictly to the gangrenous surface. In a wound of large size on the inner side of the thigh, one portion of which was sloughing, while the remainder had been cleaned and was healthy, the difference to the hand held over each part successively was most striking. Pain may be wholly absent, but I have also seen it severe and wearing. The cause of the difference in this respect between different cases I do not know.

It would be difficult to exaggerate the offensiveness of the discharge from wounds in this condition of gangrene. There is a peculiarly nauseous smell over and above that of mere putridity, which I am inclined to attribute to the rancid state of the oil-drops mentioned as seen under the microscope.

One point remains to be noticed, which is the appearance of the surface of these wounds when they are cleaned out by vigorous sponging. A seeming exuberance of pale granulations, often resembling the surface of a bunch of small hydatids, is presented. But so from being exuberant, these granular prominences are merely those parts not yet attacked by the sloughing, and they protrude simply because the tissues between them have been destroyed.

This disorder is strictly local, as has been pointed out by Blackadder and others. It may exist for days, and destroy tissue to a wide extent, without affecting the constitutional condition to any appreciable degree. But this is only the case in men previously robust; generally there is more or less irritative fever, according as the system is more or less readily impressible. Other facts, however, show clearly the local nature of the lesion. One wound may be rapidly spreading and highly offensive, while another in the same limb is healing kindly. Nay, of the same wound one portion may be granulating and filling up, while the remainder of it is sloughing.

Should amputation become necessary, the stump will, if properly made and treated, do as well as in any ordinary case.

When the general system does become implicated, it is by reason of the exhausting effect of the local action, and of pain, and not because there is anything like infection. Perhaps this occurs in some cases, which pass into a typhoid state, but it is not common, and certainly not essential.

Causes.—This disease arises epidemically in hospitals, in single wards, or even in separate tents. Having once made its appearance, it spreads rapidly, unless great care is taken in the way to be presently pointed out. It is surely propagated, wherever the same basins or sponges are used indiscriminately for these and for other cases.

But these facts do not account for its origination. No disease should come on more spontaneously, to all appearances, than this often does—none could be more directly traceable to contagion in many cases. It has not yet been observed that any special atmospheric state is apt to attend its appearance, although it seems, as might *a priori* have been expected, that a high temperature favors the putrescent change. Eight or ten very marked cases have, however, occurred under my own notice within the past week (Oct. 20 to Oct. 27) at the Beverly Hospital, among patients in tents, and in a location seemingly free from any possible hygienic disadvantage.

It should be mentioned that the grouping together of grave surgical cases, and especially when these are in any degree overcrowded, seems to favor the breaking out of this affection. But on the other hand this condition may exist without the disease arising, and on the other the disease may be developed where the cases are mild and few. In the spring of 1863, while on duty as a visiting surgeon at the Satterlee Hospital in West Philadelphia, I had under twenty men, all convalescents, in a ward calculated to accommodate fifty, and yet two of the number were suddenly attacked with severe sloughing of their nearly healed wounds.

Prognosis.—This is almost always favorable as regards the saving of life—although a patient worn by previous disease might sink under the accession of this new burden. Again, the wound which assumes the gangrenous state may be so situated as not to admit of the needful treatment; penetrating wounds of the chest or abdomen, taking on this condition, have in my experience been uniformly fatal.

This disease may be fatal to a limb which but for it might have been saved; since it lays bare tendons, bones, nerves,

and vessels, often involving the two former, especially in necrosis. Hemorrhage is less common in these than would be supposed; it does not necessarily involve amputation, if the artery concerned can be cut down upon and ligated higher up, since the wound so made will do well. Such a course could not be pursued were the disease less purely local.

Treatment.—There are two indications always present in cases of this kind. First, all the putrid and putrescent matter must be removed from the wound. Secondly, means must be taken to prevent the recurrence of the sphacelation or necrosis, into which the tissues will surely run if not checked.

To fulfil the first indication, the forceps are sometimes all that is needed. My own custom is, to seize a portion of the gangrenous connective tissue, and then twist and roll it up, with traction, until it comes away as far as possible, without too great force. Sometimes it will either break or come away; but if it still resists, it must be cut away with a pair of scissors (a bent or curved pair will usually answer best), or with a knife. This must be repeated again and again, until all the tenacious putrilage has been removed. Rough sponging will still further cleanse the surface.

Chloroform or ether should be used in all cases where there is much pain or tenderness in the sore, or when the wound passes deeply through a thick fleshy part, or is undermined at its edges. *The whole surface of the wound should be reached and cleansed*; and the surgeon has not done his work if he stops short of this.

It will do no harm, after this cleansing, to "disinfect" the wound by washing it with the solution of chlorinated soda, with bromine, with a solution of permanganate of potash, or with any other preparation of the kind. But that this is necessary I do not believe, having seen cases in which it was omitted do perfectly well. The thorough cleansing by mechanical means is the main thing to be attended to.

As to the second indication, it is to be met simply by using as a dressing a preventive of oxidation. Sugar, a hydrate of carbon, which does not give up its oxygen, and which is well known for its preservative powers in the case of meats and fruit, is admirable for this purpose. Powdered white sugar is thoroughly and thickly dusted over the wound, or a thick syrup is put on like any other wet dressing, by saturating clean rags with it. I prefer the former method, the sugared surface being covered with wet lint or rags, kept in place by adhesive plaster, or by strips of bandage tied just tightly enough to keep their place.

Coal-oil, turpentine, or any other carbo-hydrogen, if pure, would answer, but the sugar is less offensive, and does not give pain. A mixture of pulverized charcoal with the sugar answers very well when the odor does not quickly disappear after the cleansing.

I believe that wounds still healthy may be prevented from becoming foul and gangrenous from the neighborhood of those which are in the latter state, by the use of sugar or any pure carbo-hydrogen as a dressing, and that the spread of hospital gangrene in a ward may be thus checked.

The cleansing may have to be repeated once, perhaps in some cases twice, before the wound assumes a healthy aspect, but whenever the whole surface can be gotten at the first time this will probably be sufficient. To prevent the spread of the disease by contagion, it is absolutely necessary that each case should have a special sponge and basin set apart for itself, and that these articles should be regularly and thoroughly cleansed after each dressing. Boiling water will effect this.

A few words as to the other plans of treatment in use for this disorder can scarcely be omitted.

Powerful irritants, such as the strong acids or alkalies, or the actual cautery, have been much employed. They depend for any good they may do upon the destruction of the surrounding tissue, and the chance that the ensuing inflammation may not take on a gangrenous form. I have no doubt that in some cases which have come under my observation life has been lost as the consequence of this cruel and random style of practice, although men have recovered in spite of it.

Strong astringents, vegetable or mineral, have been used by some surgeons; the persulphate and perchloride of iron are, I believe, the latest and most favorite of these articles. Although more rational than the former plan, this is an inefficient one in many cases, and is always more or less painful. It is besides much less cleanly than the one I have advocated.

Bromine, so successfully used by Dr. Goldsmith in the Western Military Hospitals is, like chlorine and iodine, a powerful disinfectant. But I can not help thinking that it was *the preliminary cleansing*, described by Dr. G., to which the benefit was really due.

Fermenting poultices are simply nasty, and at the same time useless.

Constitutional treatment can not be expected to check the disease, although it is sometimes indicated by incidental symptoms, and is of course in so far beneficial.

Before closing this paper, it may be right for me to repeat that Dr. Le Conte suggested to me the mode of treatment which has been set forth; his idea was that after the cleansing the permanganate of potash, in solution, should be thoroughly applied to destroy any remaining putrilage, and afterwards the sugar. Practical experience convinced me of the value of this plan, based upon chemical principles; and it was the want of a supply of the solution of the permanganate, which, compelling the omission of the second step of the treatment, proved it to be unnecessary.

In a notice of Dr. Goldsmith's "Report on Hospital Gangrene," etc., by Dr. W. F. Atlee, of this city, published in this Journal for Jan., 1864, the following remarks occur:

"We ourselves have had to treat hospital gangrene, and were entirely satisfied with the results obtained by the following local treatment: The putrid tissues were thoroughly removed; infiltration of the unhealthy secretions among the muscles and under the skin was prevented by the proper application of bandages, and a saturated solution of white sugar was poured upon the sore. We were satisfied with the effect produced by this treatment; we are certain that we should not have any reason to be so at another time, or in other places. Circumstances vary cases of disease as of everything else; they make them curable by simple syrup, or by the application of a simple ointment, or so violent as to defy the actual cautery, and nitric acid, and also, it is most likely, bromine itself."

The difference between these views and those set forth in the preceding paper we conceive to be evident. Remove the existing putrilage, and prevent the formation of more, and the disease is cured. I can not but believe that had my able friend just quoted, followed out his theory and his practice to their full extent, he would have given the plan he so sparingly commends his hearty indorsement. Having been myself an observer of the epidemic of hospital gangrene, which occurred at the Satterlee Hospital in West Philadelphia, in July, 1863, and to which allusion is made in the passage above quoted, I know that the disease as it then presented itself, and that which has come under my notice this summer, are one and the same. And I know that worse cases than have yielded to the simple treatment I have advocated, did not occur in that epidemic; I believe that worse cases could not anywhere be found, unless among men of debauched lives and ruined constitutions, the local poison was supplemented by an utterly

depraved systemic state. Under such circumstances, however, we go beyond mere hospital gangrene, which, as has been before argued, is a strictly local disease; it may even be cured in spite of other lesions severe enough to destroy life.

I beg to be excused for again urging the conviction that although hospital gangrene may disappear under the use of the actual cantery, of nitric acid, or of bromine, the happy issue is in such case in spite of the remedy, and not in consequence of it; that the *cure* consists in the removal of all the sloughing and dead tissues, and the *prevention* in opposing oxidation by means of a dressing with any substance which either contains no oxygen or which will not give it up. Once more I must express the entire confidence which a very extended observation has led me to bestow upon this theory, and the resulting line of practice.—*Am. Jour. of Med. Science.*

PERMANGANATE OF POTASH AS A REMEDY FOR DIPHTHERIA.

By LOUIS MACKALL, Jr., M. D., Georgetown, D. C.

Having used for several months past the permanganate of potash as a remedy for diphtheria, and being convinced of its great efficacy, I feel justified in calling the attention of the profession to the use of this agent in this fatal and hitherto unmanageable disease.

After using faithfully all the remedies, both general and local, which have been extolled for the cure of diphtheria, and having seen so little good result from their use, I had lost in great measure all faith in such remedies, and had come to the conclusion that the best treatment was to support the patient with nourishment and the free use of stimulants. On reading in the January number of the *American Journal*, an article by Dr. Samuel Jackson on the therapeutical application of a solution of the permanganate of potash and of ozone, it occurred to me that this agent might be beneficial in the treatment of diphtheria. Shortly afterwards I had an opportunity of making a trial of it in a severe case. A young girl about eleven years of age was seen by me after being sick several days. The tonsils, soft palate, and fauces were covered with an ash-colored deposit; the glands beneath the jaw were much

swollen, with frequent pulse and hot skin; she was treated for several days with chlorate of potash and the tincture of the chloride of iron. Muriatic acid and tincture of iron in equal parts, were applied locally. But finding the disease on the increase, I changed this treatment and used the permanganate of potash both internally and as a local application, the latter in the proportion of 3j to Oj. She took a teaspoonful every three hours, of the strength of 3j to water, Oiss. On the second day after beginning this treatment, the improvement was very marked, and she speedily recovered. The false membrane was detached and the mucous membrane presented a healthy appearance in three or four days.

Since then I have treated all the cases of diphtheria (some fourteen or fifteen) which I have seen with this agent, and am more and more convinced with every case, that we have in the permanganate a most valuable remedy. Such is my faith in its power to arrest the extension of the pseudo-membranous formation, and to remove it when formed, that I now feel little apprehension in any case if called to see the patient before the disease has extended to the larynx or paralysis has occurred. Indeed, in those almost hopeless cases in which it is evident that the disease has reached the larynx, as shown by suppressed cough and voice with paroxysms of intense dyspnoea, I have seen under its use three children recover. With a considerable experience in the disease I had previously known only one child to recover under similar circumstances. These three cases were all of the most unfavorable character; the membranous formation was abundant; the laryngeal symptoms very distressing. In all of the cases I expressed a very gloomy prognosis, as all similar cases, with the one exception above mentioned, had proved speedily fatal. In these cases I also used emetics, but I think the successful result is attributable to the permanganate, as I had used emetics in all such cases before without benefit.

When the disease has extended beyond the reach of this remedy locally applied, of course a successful result could not reasonably be expected from its use; but I believe that with this agent we can prevent diphtheria from progressing to a fatal termination provided the cases can be attended to before the larynx becomes involved.

Its tendency to attack the mucous membrane of the pharynx prior to its extension to the larynx, is characteristic of diphtheria, and I feel assured from my experience, that if the permanganate of potash is used in this stage, that it will not

only control its further development, but will speedily remove all traces of the disease by restoring the mucous membrane of the throat to a healthy state.

The inferences that it is intended should be drawn from the foregoing remarks are: that if diphtheria arises from a specific cause affecting the whole system, then the permanganate of potash may be regarded as the antidote to this poison; or if the fatal tendency is thought to be caused by or to be dependent on the local affection of the throat, then the local affection may be removed and the fatal tendency may be obviated by the use of this remedy.

It may be well to state that I have never seen any unpleasant effect from the use of the permanganate even when administered to young infants (the solution should be weakened by increasing the quantity of water to Oij, to permanganate, ʒj in very young children); and I have observed that when locally applied it causes less distress than almost any other remedy.—*Am. Jour. of Med. Science.*

EFFECTS OF TROPICAL CLIMATES ON THE EUROPEAN CONSTITUTION.

Mr. Wm. Martin, late Surgeon Bengal Army, in an interesting paper on this subject (*The Medical Mirror*, Oct. 1864,) states:

It is a well established fact, that of those Europeans who make India their residence, a considerable proportion droop and die, or are forced to seek their native air, and with regard to those who become acclimatized, their progeny has, as far as I am aware, in no instance survived to the third generation, *i. e.*, no three successive generations of pure European race have been known to survive. The same, no doubt, would be the case with regard to the natives of tropical climates, who might come to reside in Europe.

"One of the first changes," he remarks, "caused by the removal of a European to a tropical climate, is that of the function of the skin; the perspiration being in most cases greatly increased, sometimes to an inordinate degree. If it be only moderately increased, as is the case of Europeans arriving in India during the winter, when the average temperature may equal that of one of our cool summers, and

with those who have become acclimatized, on the approach of each hot season, it affords the greatest relief to the system. An increased amount of perspiration, compared with what obtains in cold regions, for residents in warm climates, must be considered the normal condition. The secretion of the liver is also, in a large majority of cases, increased in the early period of residence, and this is to be considered always as a morbid process to be carefully watched, and, if possible, guarded against; and where it occurs, it must be reduced within due bounds, or it will become a fruitful source of disease, at first functional, eventually, in all probability, organic. It is with respect to this function of the liver that so much caution is required by visitors to warm climates, for on its perversion depends in great measure the amount of derangement of health which occurs among them. On the other hand, the action of the lungs becomes lessened, chiefly if not entirely, in consequence of the increased action of the skin. The great effect this must have, we perceive, when we reflect, that although from the rarefaction of the atmosphere in a hot climate, the lungs must become expanded to a certain extent, yet that this rarefaction is occasioned solely by the increased temperature, and not by diminished atmospheric pressure, as we find to be the case in elevated regions. Consequently the amount of oxygen to be taken in is rather diminished than otherwise, and all the parts concerned in the process of respiration are not called into more vigorous action as they would be in a hilly country, but the reverse; the result of this and of the increased amount of perspiration, is that the work of the lungs is lessened, and this to a considerable extent; so much so, that a most material relief is afforded to the entire system, and if the new arrival be very cautious as to his habits, and particularly the diet, and only so much food of the proper kind be taken as will be digested and assimilated with ease, and the excretions through the lungs, skin, liver and other organs, only task the power of those organs moderately, he may perhaps have nearly as good a chance of preserving health as if he continued to reside in Europe. Should he be naturally inclined to pulmonary disease, the amount of relief to the system afforded in India by the diminished pulmonary action is so great, that he often will enjoy better general health than he did in his native clime, and even will have his life preserved by his change of residence.

The influence of the increased heat of tropical countries

upon the skin, in augmenting the amount of perspiration, is so well known, that it does not require expatiating upon; but we may remark that this increase may exist, and often through bad management to a prejudicial extent. It is possible to exceed in the amount of fluid drank; the perspiration, after being inordinately increased, may be suddenly checked; and this counteraction may be in its ultimate effects as dangerous as another condition of the skin, which leads to consequences more directly fatal, in which the perspiration, at a time of excessively sultry heat, becomes suppressed, as is seen to be the case previously to attacks of sunstroke, or insolation; more properly called heat asphyxia. In persons of intemperate habits, an inordinate perspiration is often produced by the very indulgence in intoxicating substances. The system is then left in such a condition that it cannot resist malarious or other noxious agencies; some evil influence will enter the body through the open pores of the cutaneous surface; and the effects of this will be much aggravated by the cooling of the skin, which takes place subsequently, and the rapid contraction of its surface, which renders it incapable of performing its function effectively. In this way seem to arise a large proportion of the deadly diseases so rife in tropical climates; those especially which arise from malaria, also non-malarious dysentery, continued and remittent fevers, cholera, etc.

The liver is, next to the skin, the organ most altered in its action by transference of residence from a cold to a hot climate. Its action is almost always increased to a certain extent, but if great care be taken by paying due attention to regimen, etc., this will pass off, in most cases, in a short time, if the new arrival commences his residence in the hot season, and the skin, with the action of which that of the liver is vicarious, acts freely for a continuance. If he begins his residence in the cold season, he may escape any over-action of the liver altogether; or if it occurs, it will be in less degree, and will be more tractable than in the other case. This increased action is of the nature of functional derangement, and is no doubt attributable to hyperæmia of the organ. This causes at first increased secretion simply, with sympathetic functional derangement of the stomach, and probably of the skin, lungs, etc. If this be speedily checked, and everything is favorable as regards season, and a non-malarious condition of the atmosphere, etc., things will return to their original state; otherwise, structural degeneration may occur; but more often than that, there remains a functional derangement of the

liver, involving changes of other functions; particularly those with which the liver sympathises; alteration of the constitution of the blood, etc. The derangement is often of such a serious nature, that a proper acclimatization in India is rendered impossible, and change of climate of some kind becomes necessary. In milder cases, the over-action of the liver is succeeded by a corresponding torpor; and this again, while the constitution retains its vigor, by a fit of over excitement; these opposite conditions alternating for some time. Consequently, there is always an irregular and vitiated state of the biliary secretion, with its necessary concomitants, impairment of the nutritive and nervous functions of the body generally. This state of hyperæmia of the liver, although produced in the first instance by increased temperature, is kept up very often by local influences, such as produce malaria. In fact, it exists to a greater extent in comparatively cool weather, as in the rainy and cold seasons in India, than in the hottest. In few cases, however, would the exciting cause act, but for the predisposition caused by the increased temperature. Again, in addition to heat, it seems that there must be some influence which arrests the action of the skin, for it has been remarked that in seasons in which the heat has been great, but without moisture, and consequently in which there has been no impediment to a very free action of the skin, there has been an unusual freedom from congested livers. There is no doubt, however, that long-continued heat, even if dry, will of itself, under certain circumstances, produce a state of hyperæmia.

Acute hyperæmia, or inflammation, often, according to the nature of the exciting causes of disease applied, leads to structural changes, abscess, fatty and other degenerations, etc.; with these may be conjoined the effects of fevers, dysentery, dangerous affections of the kidneys, spleen, etc. Sometimes, there is a protracted condition of chronic hyperæmia, which is too often known only by its effects. The patient experiences nothing perhaps but a general feeling of discomfort, and a state of torpor of the mind and of the functions of the nervous system, and of the principal organs, while organic changes are taking place, which will often be found to be irremediable. Frequently the disease commences in a state of sub-acute hyperæmia, in which there is pain, but not of a severe character, little disturbance of the stomach, only torpor of the chylipoietic functions, with some degree of pyrexia; and this state may merge, according to the nature of any re-

applied exciting cause, such as errors in diet, the influence of heat or cold, or wet, or any combinations of these on the patient's peculiar constitution, whether irritable or torpid, into an acute or chronic state of inflammation or hyperæmia. The final results are increase of volume of the liver, sometimes to an enormous extent, or hepatic abscess or exhausting diseases of the bowels; the only chance for saving life being an early change of air, the removal of a European to his native, or at any rate, a milder climate, being, with some exceptions, the most likely means to lead to a restoration of health.

ON THE PATHOLOGY OF DEPOSITS OF URATES.

By DR. GEORGE HARLEY,

Professor in University College, and Assistant-Physician to University College Hospital.

Deposits of Urates are of a yellow or pink color, according to the amount and kind of urohæmatin present in the liquid. The higher the color the more febrile the state of the body. At one time their presence in the urine was regarded as a sign of the crisis of disease, and hence they received the name of critical discharges. Modern investigation has, however, proved that they can not always be looked upon in this light, as they may also appear under a variety of conditions, which, although abnormal in themselves, are not truly diseased states, according to the usual meaning of the word. Thus, for example, urates may be deposited in the urine after a slight attack of indigestion, the result of over eating or drinking. Great exertion, especially if accompanied by profuse sweating will also cause them to appear. Hence we find them present in the urine after a fatiguing walk, a long day's hunting, or even after a ball, or other such occasional amusement, especially if it has been associated with much mental excitement. Hard study, and even a fright, will in some persons be followed by a deposit of urate of soda. A sudden change in the mode of life is a very common cause of their appearance, as, for example, confinement in town to country people, or a few days' residence in France to an Englishman unaccustomed to French dishes. Under none of these circumstances can the deposit be said to indicate a state of disease. It does nothing more than denote a temporary abnormal condition of the sys-

tem which may soon disappear without treatment. If, however, the deposit, instead of being merely temporary, lasts for some days, that of itself would denote that something more than a mere ephemeral derangement of the system is present, and may deserve immediate attention. A deposit in the urine is always a sign of something being wrong, and although, as we have seen, it may occur from very trivial causes, whenever it takes place without appreciable cause, in the otherwise apparently healthy, it is a sign not to be disregarded, as, under such circumstances, it is not unfrequently either the forerunner or associate of gravel or stone. Uric acid in some form or other is the commonest ingredient of all calculi, and there is no period of life exempt from them.

Urates are a very common deposit in the course of acute disease, and they even seldom fail to recur at some period or other in the course of chronic affections. It is, however, only in diseases of an acute, febrile or inflammatory type that their sudden appearance can be regarded as indicative of a crisis. Their sudden appearance is due to an important change having occurred in the condition of the patient, and in general, though not always, it is a change for the better. Such, for example, is observed to occur in cases of gout and rheumatism where the climax has been reached. So also in pneumonia and pleurisy when resolution and absorption commence.

Should a patient, not laboring under any febrile or inflammatory affection, be every now and then troubled with a pink deposit in the urine without any assignable cause, it will be found, in almost nine cases out of ten, that he is suffering from some chronic affection of the heart, liver, or spleen, with which is associated a tendency to gravel. In all such cases, therefore, steps should immediately be taken to counteract this disposition by the administration of alkaline tonics. Should there, however, be any counter-indication to the correct alkaline treatment, those acid salts are to be employed which, during their passage through the body, are converted into alkaline carbonates—such, for example, as citrates, tartrates, lactates, and acetates. Every now and then an exceptional case may arise, where a mineral acid tonic is demanded; under such circumstances the above rule may be departed from, and the case treated according to its special requirements.

It not unfrequently happens that there are crystals of free uric acid scattered among an amorphous deposit of urates. This is more frequently the case in the course of chronic than of acute affections, and generally arises from there being an

excess of acid in the urine, which has combined with some of the alkaline base and set a portion of the uric acid free.

The crystals of uric acid form on the bottom and sides of the vessel as the urine cools, and, if large they may be readily detected by the naked eye, in consequence of their yellow, red, or brown color. Uric acid, like urea, when crystalized in urine always takes up a part of the urobæmatin or any other coloring matter that may chance to be present. So that, the paler the urine, the less colored are the crystals; the darker the urine, the more colored the crystals. In abnormal urines containing blue, black, or saffron-colored pigment, the uric acid crystals are blue, black, or yellow; as in these variously-colored specimens now before you. The crystals are easily recognized by the naked eye, if the urine be put in a wine-glass and the deposit allowed to fall to the bottom.

Uric acid is not necessarily in excess when it crystalizes spontaneously—though that is the general rule. It has just been said that an excess of free acid induces its crystalization. I may now add that it is also deposited when from any cause the proportion of alkaline base is abnormally diminished. This arises from the circumstance that uric acid is much less soluble than any of its salts, even the urate of ammonia included.

The daily amount of uric acid excreted varies considerably in disease. It is generally in excess during the course of all fevers (yellow fever excepted), exanthematous affections, and inflammatory diseases. It has been found doubled in typhus (Parkes), greatly increased in small-pox, as well as considerably augmented in pneumonia. In certain diseases crystals of free uric acid are spontaneously deposited in the urine. This is more particularly the case in hepatic, cardiac, and splenic diseases.

In liver affections there is frequently a spontaneous deposit of free uric acid among the amorphous urates, which, as already said, are so common in those affections. This is more particularly observable in cancer of that organ, in which case, too, the uric acid is generally in excess;—a fact frequently made use of in diagnosis, for in non-malignant hepatic disease especially towards its latter stages, the uric acid is found to be remarkably diminished.—*Med. Times and Gazette*, May 28, 1864, p. 584.

EDITORIAL AND MISCELLANEOUS,

RUSH MEDICAL COLLEGE.

The Commencement Exercises of the Twenty-Second Annual Session of Lectures in Rush Medical College, were held on the evening of the 25th of January, the graduating class numbering 108. The address was given by Prof. Carr, of the Wisconsin University, who, during the temporary absence of Prof. Blaney, in the Medical Service of the Army, has given the course on Chemistry in a manner most acceptable to the class, and to elicit from the Trustees and the Faculty of the College the highest commendation. Of the rare excellence of the Address, its correct teaching, scholastic diction, depth of thought, and beauty of illustration, we need not speak, as we hope to present it to our readers in the pages of the *Journal*. The session thus happily brought to a close, was commenced under the brightest auspices, which, in its progress, never for a moment were overcast.

The Faculty labored, as they always have, in a spirit of perfect harmony, and with scrupulous fidelity to what they conceived to be for the best interest of their class. The lectures were given in their regular order, without change, interruption, or derangement. Of the class—the largest the College ever welcomed to its teachings—we speak with pleasure, not unmingled with pride. A somewhat extensive observation has not brought to our notice one better endowed with native capacity or possessed of higher scientific attainments than this. As a whole, they were men of superior character—their deportment on every occasion received from all the highest praise, and they evinced an interest in the lectures that made them attentive and constant listeners. It is

upon its Alumni that the reputation, success, and usefulness of the School rests, as upon a sure foundation, and the final examination of the graduating class made the Faculty incorporate them into this body without fear that its reputation would suffer thereby. All were blessed with a good degree of health, and the course was in every way satisfactory to both teachers and pupils.

The following named gentlemen received the Degree :—

| NAMES. | SUBJECT OF THESIS. |
|-----------------------------|---|
| W. R. Adair,..... | Gunshot Wounds. |
| J. Madison C. Adams,..... | Milk Sickness. |
| Henry Allen, ... | Attraction as Applied to Animal Organism. |
| R. M. Allen,..... | Milk Sickness. |
| W. C. Baird,..... | Pneumonia. |
| Braxton Baker,..... | Digestion. |
| Zopher Ball,..... | Fractures. |
| John Becker,..... | Uterine Hemorrhage. |
| Newton Baker,..... | Pneumonia. |
| C. R. Blackall,..... | Mental Complications in Disease. |
| E. J. Bond,..... | Continued Fever. |
| D. W. Bosley,..... | Etiology. |
| W. E. Bowman,..... | Shot through the Heart. |
| James G. Boardman,..... | Hospital Gangrene. |
| J. W. Brown,..... | Gun-shot Wounds. |
| W. H. Bright,..... | Diphtheria. |
| J. G. Blanchard,..... | Gonorrhœa. |
| C. H. Brunk,..... | Typhoid Fever. |
| C. H. Carlisle,..... | Bilious Fever. |
| E. P. Catlin,..... | Variola. |
| W. E. Chamberlin,..... | Scarlatina. |
| H. F. Chesbrough,..... | Pain. |
| Frederick Cole,..... | The Rational Physician. |
| Samuel Cole, Jr.,..... | Varicose Veins. |
| H. N. Clark,..... | Pneumonia. |
| J. L. Congdon,..... | |
| J. Cooper,..... | Conjunctivitis. |
| John Cotton,..... | Camp Diarrhœa. |
| Clinton Cushing,..... | The Bile. |
| M. Morton Dowler, Jr.,..... | Osteo-Genesis. |
| A. J. Darrah,..... | Auscultation. |
| S. A. Davison,..... | Inflammation. |
| S. W. Dodd,..... | Etiology. |
| A. C. Douglass,..... | Enteric Fever. |
| A. S. Ehle,..... | Cynanche Trachealis. |
| Andrew J. Eidson,..... | Opium. |

| NAMES. | SUBJECT OF THESIS. |
|--------------------------|--|
| Samuel S. Elder..... | Typhoid Fever. |
| Samuel T. Ferguson..... | " " |
| S. A. Ferrin..... | Pseudo-Membranous Croup. |
| Henry A. Folger..... | Therapeutical Agents. |
| O. D. Ford..... | Pernicious Fever. |
| J. H. Foster..... | Conservative Medicine. |
| Samuel Galloway..... | Dysentery. |
| H. T. Godfrey..... | Small Pox. |
| R. Romanta Gaskill..... | Rubeola. |
| J. Thomas Hale..... | Typhoid Fever. |
| J. M. Hurrah..... | Criminal Abortion. |
| Thos. C. Hance..... | Typhoid Fever. |
| A. P. Herndon..... | Intermittent Fever. |
| Wm. H. Hess..... | Causes, Symp. and Treatment of Inflammation. |
| Smith H. Hess..... | Scarlatina. |
| J. W. Herdman..... | Inflammation. |
| Francis M. Hiatt..... | Intermittent Fever. |
| H. Edward Horton..... | Blood in Disease. |
| Geo. W. James..... | Phthisis. |
| Merritt S. Jones..... | Erysipelas. |
| David R. Johnston..... | The Prostrate Gland. |
| Charles Kerr..... | Cholera Infantum. |
| G. F. Keiper..... | Placenta Previa. |
| W. J. Kelsey..... | Necrosis. |
| John L. Kite..... | Hospitals. |
| Chas. Ed. Kuester..... | The Spleen. |
| C. E. Lamon..... | Milk Sickness. |
| J. H. Leal..... | Prophylaxis. |
| Josiah Lee..... | Erysipelas. |
| C. J. Lewis..... | " |
| A. W. Lueck..... | Respiration. |
| Carl J. Lucas..... | Sterility. |
| W. B. Lyons..... | Spotted Fever. |
| Isaac L. Mahan..... | Typhoid Fever. |
| J. G. Meachem, Jr..... | Albuminuria. |
| L. B. Morrow..... | Natural Labor. |
| William A. Morse..... | Camp Diarrhœa. |
| G. D. Maxon..... | Cerebritis. |
| William M. Newell..... | Man as a Machine. |
| M. W. Nesmeth..... | Intermittent Fever. |
| Joseph Otto..... | Blood. |
| William P. Penfield..... | Pneumonia. |
| John W. Powell..... | Gonorrhœa. |
| Joseph L. Prentiss..... | Blood. |

| NAMES. | SUBJECT OF THESIS. |
|--------------------------|------------------------------|
| G. W. Priest..... | Evidences of Gestation. |
| Charles H. Quinlan..... | Preservation of the Teeth. |
| Lafayette Redmon..... | Pneumonia. |
| A. J. Rodman..... | Potassium. |
| C. B. Reed..... | Diphtheria. |
| Flavel Shurtleff..... | Diabetes. |
| J. L. Shepard..... | Variola. |
| Emery Sherman..... | Hygiene. |
| Ashbury E. Smith..... | Diphtheria. |
| W. H. H. Smith..... | Typhoid Fever. |
| M. S. Stahl..... | Digestion. |
| G. A. Stevenson..... | Management of Natural Labor. |
| D. Hedrick Stratton..... | Toxæmia. |
| G. C. Smythe..... | Military Hospitals. |
| J. L. Trousdale..... | Progress of Medical Science. |
| John W. Trueworthy..... | Delirium Tremens. |
| Henry Van Buren..... | Dropsy. |
| G. W. Van Zant..... | Inflammation. |
| Theodore Wild..... | Vis Medicatrix Natura. |
| Joseph H. Wilson..... | Management of Natural Labor. |
| Horatio B. Withers..... | The Accouchuer. |
| George Worsely..... | Typhoid Pneumonia. |
| O. P. B. Wright..... | The Circulatory System. |
| Charles Young..... | Fever. |

The *ad eundem* degree was conferred on the following named gentlemen :

Martin Baker, M. D., California.
 D. W. C. Denny, M. D., Indiana.
 W. H. Dubler, M. D., Illinois.
 N. Wright, M. D., Illinois.

TREATMENT OF TAPE-WORM WITH ELM BARK.

By J. R. DOWLER, M. D., of Beardstown, Ill.

The subject of this notice is a daughter of Mr. Eb. Fish, of Beardstown, Ill., about six years old. The only point of special interest in the case, consists in the efficiency of the remedy—to me perfectly new, and accidentally brought to my notice—which was used in its treatment.

I was treating a little brother of this patient, in the latter

part of last July, a part of my prescription for whom was, as a drink, the mucilage of elm bark, made by putting pieces of the solid bark into water. The little girl was seen to be frequently eating portions of the bark during the day; the next morning, upon my visiting the boy, the mother, with much anxiety, showed me a vessel containing something that had that morning passed the little girl's bowels, with bits of the elm bark, enveloped in mucilage, which, upon examination, proved to be about three feet of tape-worm. As I supposed the passage of the worm was accidental, and had occurred simply from the looseness caused by the bark, I proceeded to prescribe what I supposed a much more potent anthelmintic, a large dose of turpentine and castor oil. The turpentine and oil were given several times during the three consecutive days causing pretty active purging, but with no appearance of any portion of the worm. The girl being slender, and of irritable temperament, I was forced to desist from further active medications; and partly to allay irritation of the bowels, and partly to test the influence of the bark on the worm, I directed that she should resume the use of the bark as before, by chewing and swallowing it in moderate quantities.

On visiting my *new* patient the succeeding morning, I was shown portions of the worm, mostly in separate joints, that had been passed over night. Feeling now some confidence in the anthelmintic powers of the elm bark, I directed the continued use of it, in the solid form, as before, while there should be any portions of the worm passing. In my daily calls, for some days, I had the satisfaction to learn that portions of the worm continued to pass each day, and sometimes several times a day.

I now ceased to visit my patient, intending only an occasional call; but my confidence in the efficacy of *elm bark* being so well established, I advised its use to be continued, even for two or three days after any portions of the worm should be seen in the evacuations. The portions of the worm expelled, even the separate joints, were alive, showing more

or less motion; a sense of their presence in the rectum, from their action, seemed to urge the patient to go to stool for their removal.

Having given direction for the links or joints to be counted care was taken by the mother to do so, and from my notes of the case, taken on the 17th of September, 1858, I find that during about seven weeks of the intervening time there had been expelled, by estimate, (taking the average lengths of the joints,) about 45 feet of the worm. At this time there had been no portions passed for two weeks, during which time the use of the bark had been omitted. The head of the worm, with about fifteen inches of the body attached, had been expelled; but thinking that all portions of the worm or *worms* might not have been removed, I advised that the patient resume the use of the bark. The next day after doing so, further portions came away, among them one about six feet in length tapering to a thread-like termination.

The next time I took notes of the case was March 23, 1859, at which time my estimate of the entire length that had been expelled footed up to 135 feet, whether of *one* or more worms I am unable to say, as in the portions I saw there were a head and tail of what I supposed one worm. Since the last estimate there have been joints occasionally evacuated.

This patient when first treated was thin in flesh—had been growing so for some two years—attended with the usual nervous symptoms, startings out of sleep, variable appetite, etc., but with no great departure from good health.

Some time during the autumn of 1863, Charles Wells, a discharged soldier, applied to me for treatment for "fits," as he called his disease, stating he had been discharged from the service on account of them. He stated that while under treatment for the "fits" by the regimental surgeon, he had discharged some small portions of tape worm, after which the surgeon treated him actively with the view of removing more of the worm, but without success.

His "fits" (epileptic) continuing to recur frequently, I

supposed they might be caused or sustained by unexpelled tape worm, and being desirous of further testing the powers of the elm bark, as an anthelmintic, I at once put him on the use of it, directing him to chew and swallow it in considerable quantities, using the brittle, thick kind of fresh bark, and directing him, in case his bowels should not be relaxed by the bark, to use small doses of oleum ricini to maintain that condition, without any restrictions as to his diet or habits of living. As he resided about eight miles from my place of residence, I requested him to report to me only occasionally.

In about five or six days, he called to see me again, stating that on the second day after commencing the use of the bark, portions of worm, mostly in separate joints, commenced coming away, and continued to do so at nearly every stool, to the time of this report of his case; he having had to use occasionally a little castor oil to promote laxity. I ordered the continuance of the same course while any portions of worm should appear in the evacuations.

Two weeks from his first report, he called again, bringing with him about seven feet of worm, tapering in width from about half-an-inch to a mere thread-like termination. He also stated that there had been daily evacuations of portions of worm, in short pieces, but mostly in separate joints, frequently passing off involuntarily, while walking about, as it appeared by the accumulation of the joints, with the elm mucilage, within the anus. This was the last report he made of his case, as after this he passed beyond my range of observation.

The foregoing, I think, must be accepted as proof that this bland agent possesses properties that make it a very efficient tape worm expelling substance.

As to the influence of this very bland agent in the dislodgement of the tape-worm, in these cases I think there can be no doubt, whatever may be the *theory* of its action.

The mode by which this parasite maintains its position must

be by its verminous contraction, and adaptation of its flat surface to the inner surface of the bowels, thus preserving itself from being carried along with their fecal contents and cast off. That it should maintain its position by the force of *suction*, exerted by the mouth, as some writers have supposed, would seem to be absurd, when the great length of the animal is considered, and the forces in operation tending to its removal. The passage of portions of the worm so promptly on the use of the bark, and the ceasing to do so on its discontinuance—even while active anthelmintics were used—leave no room to doubt its effectiveness in this case, at least, as a worm expelling agent.

It seems probable that the bark, with its thick mucilage, so interposes between the animal and the inner surface of the bowels as to prevent its lateral grasp on their surface, in consequence of which it is compelled to yield to the forces naturally operating, and is carried out with the discharges. But, as my object was simply to state the practical *facts* in the cases, I will offer no further reflections.

COUNTER-IRRITATION WITH TINCTURE OF IODINE IN NEURALGIA.

In a clinical conference at the Children's Hospital in Paris, M. Bouchut relates several cases which illustrate the efficacy of this mode of counter-irritation in cases of neuralgia.

The first case related was that of a lady aged fifty, who for six months had been prevented by intercostal neuralgia from wearing stays. The painful region was painted over every day with tincture of iodine during a week, and at the expiration of that period a complete cure of was effected.

Another, and very corpulent lady, had for three years suffered from a stitch in the eighth intercostal space, in front of the short ribs. The same treatment was instituted, with perfect success.

A dyspeptic and hypochondriac subject affected with precordial neuralgia, considered himself threatened with diseases of the heart. Daily applications of tincture of iodine were prescribed, and the pain subsided; a relapse took place, and again the remedy, perseveringly resorted to with sufficient energy to cause desquamation, removed the neuralgia, which then disappeared altogether.

In some cases of obstinate intercostal neuralgia the patients imagine the symptom to be the indication of pulmonary tuberculosis. A lady, subject to bronchitis, had for twelve months suffered from a neuralgic pain of this description, and conceived herself to be consumptive; she resorted, by advice, to the Eaux Bonnes, but returned to Paris without having experienced any improvement. M. Bouchut applied the tincture of iodine, relieved the pain, and the much-dreaded thoracic disease was cured at the same time.

Neuralgia of the breast is to many women a cause of very great uneasiness, especially when the organ contains the small indurated lobules which M. Velpeau designates under the denominations of adenoma, or irritable tumor of the mamma. In these cases the patients are haunted by the fear of cancer, and M. Bouchut has had several opportunities of testing the efficacy of the tincture of iodine; applications daily repeated for eight or ten days have often succeeded in calming the pain, and in reassuring the patients.

In another case of a singular nature the neuralgia was accompanied by delusions of the sense of hearing, and the pain was so intense that the sufferer, tormented by hostile imaginary voices, and much alarmed by her symptoms, seemed bent on self-destruction. M. Bouchut removed the pain in a few days with the tincture of iodine, and this lady has since recovered from her melancholy mental condition.

M. Bouchut adduced several cases from which it appears that all varieties of neuralgia may be benefitted by the treatment he recommends.

A little girl was afflicted with supra-orbital neuralgia; and for three days in succession tincture of iodine was applied over the brow to a surface not exceeding the size of a six-penny piece, and a cure was effected.

M. Bouchut further related two instances of hemicrania, with photophobia and vomiting, in which the symptoms yielded to the same remedy. He also brought forward a case of sciatica observed in a naval officer; the pain was chiefly apparent at the head of the fibula and near the tendo-Achillis.

Both regions were touched with the tincture, and the sciatica disappeared.

Blistering might possibly have proven equally beneficial ; but the application of blisters is not always possible, and the tincture of iodine is a valuable and convenient substitute.

Thus, when M. Bouchut was attached as physician to the Hopital Sainte-Engenie, he was consulted by a lady, residing at Charenton, for neuralgia in the occipital region. The patient was naturally desirous of preserving her hair, and instead of a blister, tincture of iodine was prescribed. The desired effect was produced after desquamation of the cuticle, and the hair was not injured.

As an instance of numerous and successive attacks of neuralgic pains, we may adduce the instance of a lady who, during her monthly period, wearing a crinoline and insufficient under-clothing, caught cold ; the menses were checked, and retro-uterine hæmatocele followed. She was treated in an appropriate manner, and recovered her health ; but pains supervened in the pelvis, between the shoulders, and in the intercostal spaces. The interscapular neuralgia had lasted eight months, when by M. Bouchut's advice, tincture of iodine was applied every day for a week ; the treatment was very painful, but its results were perfectly satisfactory. Iliac neuralgia subsequently occurred ; the same remedy was resorted to, but not with sufficient perseverance to secure permanent relief. Indeed, the method cannot be successful unless a predetermined action is induced, which hitherto can only be estimated by desquamation of the cuticle.

This is not a new mode of treatment. In pulmonary consumption, and in chronic pleurisy, the same procedure has been highly recommended for the relief of the pains which frequently accompany these affections. The method was introduced into practice by M. Blache, has since been very generally adopted, and is now acknowledged to be highly serviceable. This eminent practitioner, and also M. Van Holsbeck, in Belgium, and M. Magne, in Paris, have substituted with much benefit, tincture of iodine for the blisters formerly applied around the orbit, for the purpose of removing the photophobia which accompanies scrofulous ophthalmia, and interferes with the needful inspection of the eye-ball. This object is most satisfactorily attained by painting over the lids, forehead, and temples every second day with the tincture, and the tendency of blistered surfaces in hospital to become the seat of diphtheria is thus ingeniously neutralized.

ORIGIN OF BRANDY.

Brandy began to be distilled in France about the year 1313, but it was prepared only as a medicine, and was considered as possessing such marvellous strengthening and sanitary powers that the physicians named it "the water of life," (*l'eau de vie*), a name it still retains, though now rendered, by excessive potations, one of life's most powerful and prevalent destroyers. Raymond Lully, a disciple of Arnold de Villa Nova, considers this admirable essence of wine to be an emanation from the Divinity, and that it was intended to re-animate and prolong the life of man. He even thought that this discovery indicated that the time had arrived for the consummation of all things—the end of the world. Before the means of determining the true quantity of alcohol in spirits were known, the dealers were in the habit of employing a very rude method of forming a notion of the strength. A given quantity of the spirits was poured upon a quantity of gunpowder in a dish and set on fire. If at the end of the combustion the gunpowder continued dry enough, it exploded, but if it had been wetted by the water in the spirits, the flame of the alcohol went out without setting the powder on fire. This was called the proof. Spirits which kindled gunpowder were said to be above proof.

From the origin of the term "proof," it is obvious that its meaning must at first have been very indefinite. It could serve only to point out those spirits which are too weak to kindle gunpowder, but could not give any information respecting the relative strength of those spirits which were above proof. Even the strength of proof was not fixed, because it was influenced by the quantity of spirits employed—a small quantity of weaker spirit might be made to kindle gunpowder, while a greater quantity of a stronger might fail. Clark in his hydrometer, which was invented about the year 1730, fixed the strength of proof-spirits on the stem at the specific gravity of 0.920 at the temperature of 60 degrees. This is the strength at which proof-spirit is fixed in Great Britain by Act of Parliament, and at this strength it is no more than a mixture of 49 pounds of pure alcohol with 51 pounds of water. Brandy, rum, gin, and whiskey contain nearly similar proportions.